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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/743,994	01/17/2001	Nobuyuki Doguchi	14198	1525

7590

09/20/2004

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EXAMINER

LEUBECKER, JOHN P

ART UNIT

PAPER NUMBER

3739

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/743,994

Applicant(s)

DOGUCHI ET AL.

Examiner

John P. Leubecker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/16/04</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 52 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 52, term “the predetermined level” (last line) lacks antecedent basis.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 34-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imaizumi et al. (U.S. Pat. 6,293,911) in view of Hynecek (U.S. Pat. 5,337,340).

The explanation of the rejection appears in numbered paragraph 9 of the previous Office Action, paper number 14. With respect to the “distinct differences” between the present invention and the cited references alleged by Applicant (now in at least each independent claim and listed on the bottom of page 13 of Applicant’s remarks), the Examiner takes the position that the above proposed combination at least discloses the structure that is capable of controlling the sensitivity “so that a level of a signal from the solid-state imaging device (CCD) may be of a predetermined value”. Since the multiplication rate is variable with respect to an control input signal (sensitivity control pulses), the level of a signal from the CCD may be controlled to be any

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predetermined value. And, more importantly, the level of the signal *is* a “predetermined value” due to the constraints of the system components (once the control input signal, and thus multiplication rate, is determined and applied, the output level of the CCD is concurrently “predetermined”). Applicant is now claiming nothing more than inherent characteristics of and a function capable of being performed by the structure of the proposed combination of references. The Examiner disagrees with Applicant’s characterization of Imaizumi et al. as describing ““to control amplification factor”, which may be considered to correspond to the electron multiplication rate (*of a fixed value*) in the present invention” (emphasis added). There is no logical reason whatsoever to consider the addition of a controlling function in an amplification process to provide no actual “control” over the amplification (and thus fixed). A conventional amplifier (note amplifier 124, Fig.42, for example) amplifies for the most part at a fixed value. Specificity of controlling an amplification factor (multiplication rate), contrary to Applicant’s belief, inherently suggests the ability to vary the amplification factor.

With respect to the auto-gain control circuit, Imaizumi et al., as recognized by Applicant, discloses such. If Imaizumi’s AGC is conventional (and there is no evidence that it is not), then amplification is automatically varied in accordance with the input signal to keep the output signal at a predetermined level or range of levels. That is why it is call an “auto-gain control” instead of a generic “amplifier”. Thus, the AGC circuit of Imaizumi et al. is at least capable of amplifying the output of the CCD to a predetermined level. Furthermore, even if Imaizumi’s AGC circuit **always** amplifies the output of the CCD (as preamplifier 124 does), as alleged by Applicant in the last paragraph of page 14 of Applicant’s remarks, then the circuit of Imaizumi et al. would still “amplify in the case the output signal of the CCD is less than a predetermined

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value”, as well as in the case that the output signal is greater than a predetermined value. Thus, Imaizumi et al. meet the limitations of the auto-gain control circuit.

5. Claims 34-38 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palcic et al. (U.S. Pat. 5,827,190) in view of Hynecek.

The explanation of the rejection appears in numbered paragraph 7 of the previous Office Action, paper number 14. By control of the multiplication rate, the Palcic/Hynecek combination is clearly capable of controlling the sensitivity “so that a level of a signal from the solid-state imaging device may be a predetermined value”. Thus, the described structure meets the claimed structural limitations. In any event, the level of an output signal from the CCD is inherently a “predetermined value” due to the system constraints (once the control input signal, and thus multiplication rate, is determined and applied, the output level of the CCD is concurrently “predetermined”).

6. Claims 34-36 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (U.S. Pat. 4,821,117) in view of Hynecek.

The explanation of the rejection appears in numbered paragraph 8 of the previous Office Action, paper number 14. By control of the multiplication rate, the Sekiguchi/Hynecek combination is clearly capable of controlling the sensitivity “so that a level of a signal from the solid-state imaging device may be a predetermined value”. Thus, the described structure meets the claimed structural limitations. In any event, the level of an output signal from the CCD is inherently a “predetermined value” due to the system constraints (once the control input signal,

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and thus multiplication rate, is determined and applied, the output level of the CCD is concurrently "predetermined").

Response to Arguments

7. Applicant's arguments filed June 16, 2004 have been fully considered but they are not persuasive.

Original claims 1-22 and 29-33 were rewritten as claims 34-52 in the paper filed June 16, 2004 to recite substantially the same subject matter except for two features which Applicant believes differentiates the present invention from the prior art. The Examiner addresses these features above.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Furusawa et al. (U.S. Pat. 6,059,720)—note use of AGC circuit (col.6, lines 28-45).

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

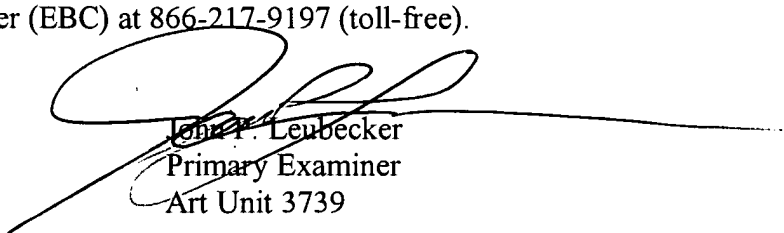
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Leubecker whose telephone number is (703) 308-0951. The examiner can normally be reached on Monday through Friday, 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (703) 308-0994. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John P. Leubecker
Primary Examiner
Art Unit 3739

jpl